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INTRODUCTION

This report has been prepared in response to the requirements of 40 CFR §51.366 for the calendar year 2012. It is the fifteenth such report released by the Commonwealth of Pennsylvania.

The Pennsylvania Vehicle Inspection/Maintenance (I/M) Program is administered by the Pennsylvania Department of Transportation (PennDOT), which has contracted with Parsons Environment and Infrastructure Group Inc. as the Program Manager. In this capacity, the contractor performs, inter alia, data collection, quality control and quality assurance activities.

On October 9th, 2012, the Pennsylvania Emissions Management Information System (PA-EMIS) transitioned from the previous vendor to the current contractor, Parsons Environment and Infrastructure Group. While all the systems required to maintain the program transitioned successfully, each inspection station was required to enroll with the new contractor for billing transactions.

Because the Pennsylvania I/M program is decentralized, emissions testing is performed at private, independently owned and operated emissions inspection stations. Individual test lanes and analyzers are secondary to the station itself. All tracking of performance, audits, suspensions, fines, etc., is performed in terms of stations and technicians, not of test lanes or analyzers. When a Quality Assurance Officer (QAO) serves a suspension notice, it is served on the test station and all analyzers the station operates are affected by the suspension. This is further reinforced by the fact that the large majority of stations participating in the program have only one analyzer/test lane; therefore, whatever affects the station affects the analyzer by default. Start dates and stop dates are tracked by station only, not by inspection lane or analyzer.

Gas Cap Testing Note: The gas cap testing component of the Pennsylvania program contains an option to replace a failed gas cap with one that passes, and then completes the visual inspection, On Board Diagnostic (OBD) I/M Check or tailpipe testing steps of the emissions inspection. If a vehicle with a gas cap replaced during a test passes the remaining steps, the test result is sent from the analyzer to the I/M program database as an overall pass, even though the vehicle failed the gas cap test. As a result, the pass/fail data in this report shows a higher number of vehicles passing (and fewer failing) than would be shown if these gas cap failures resulted in being recorded as overall test failures. The tables in Appendices A, B, C, D, G, and H all reflect this circumstance. Appendix "I" provides a table summarizing initial tests where gas caps were replaced during the test. Adjustments can be made to the pass/fail-related data in the other applicable report tables to show these cases as overall test failures.

For the purposes of this report, unless otherwise specified, "Year" is defined as the time period consisting of the full calendar year in which the Pennsylvania Vehicle I/M Program was in operation (January 1, 2012 through December 31, 2012).

The regions discussed in this report are defined as follows:

Northern Region: *Blair, Cambria, Centre, Erie, Lackawanna, Luzerne, Lycoming, Mercer Counties*

The emissions inspection requirement for vehicles registered in the Northern Region Counties consists of Model Year (MY) 1975 and newer vehicles receiving a gas cap test and visual inspection.

Philadelphia Region: *Bucks, Chester, Delaware, Montgomery, Philadelphia Counties*

The emissions inspection requirement for vehicles registered in the Philadelphia Region Counties varies by Model Year and vehicle type. In 2012, MY 1975–1986 passenger vehicles and light duty trucks received a gas cap test and visual inspection. All MY 1987–1995 passenger vehicles and light duty trucks, received an Acceleration Simulation Mode 1 (ASM5015) test using a dynamometer, evaporative system function test (pressure purge and gas cap test), and visual inspection. MY 1987–1995 full-time all wheel drive vehicles received a two-speed idle (TSI) test, gas cap test, and visual inspection. MY 1996 and newer vehicles 8,500 lbs. Gross Vehicle Weight Rating (GVWR) and under received an OBD–I/M check and gas cap test. MY 1996 and newer vehicles between 8,501 and 9000 lbs. GVWR received a two-speed idle test, visual inspection, and gas cap test.

Pittsburgh Region: *Allegheny, Beaver, Washington, Westmoreland Counties*

The emissions inspection requirement for vehicles registered in the Pittsburgh Region Counties varies by Model Year and vehicle type. In 2012, all MY 1975–1986 passenger vehicles and light duty trucks received a gas cap test and visual inspection. All MY 1987–1995 passenger vehicles and light duty trucks received a two-speed idle test, gas cap test, and visual inspection. MY 1996 and newer vehicles 8,500 lbs. GVWR and under received an OBD–I/M check and gas cap test. MY 1996 and newer vehicles between 8,501 and 9000 lbs. GVWR received a two-speed idle test, visual inspection, and gas cap test.

South Central Region: *Berks, Cumberland, Dauphin, Lancaster, Lebanon, Lehigh, Northampton, York Counties*

The emissions inspection requirement for vehicles registered in the South Central Region Counties varies by Model Year and vehicle type. In 2012, all MY 1975–1995 vehicles received a gas cap test and visual inspection. All MY 1996 and newer vehicles 8,500 lbs. GVWR and under received an OBD–I/M check and gas cap test. MY 1996 and newer vehicles between 8,501 and 9000 lbs. GVWR received a gas cap test and visual inspection.

PROGRAM MANAGEMENT SUMMARY

As previously noted, the contractor performs data collection, quality control and quality assurance activities for Pennsylvania's I/M program. A summary of the contractor's 2012 program management activities follows.

Design, Build, and Operate Data Handling System

As manager of the Pennsylvania I/M Program, the contractor has implemented the Pennsylvania Emissions Management Information System (PA-EMIS). The PA-EMIS establishes a real time connection between inspection stations in the I/M program and the Vehicle Identification Information Database (VIID). The VIID maintains records on all vehicles that have been tested or issued exemptions under Pennsylvania's I/M program. The PA-EMIS is distributed and supported by a high-speed, maximum-security network.

During 2012, the contractor took the following steps to manage the PA-EMIS and VIID:

PA-EMIS and VIID Transition

The new contractor successfully engineered and developed a communications infrastructure to seamlessly transition all existing Pennsylvania Analyzer System (PAS) units to communicate with the new contractor's VIID. The transition occurred over a period of several minutes on the evening of October 8th, 2012. The transition required no changes to the PAS units in the field. All necessary changes to accommodate twelve different platforms were coordinated from the new contractor's VIID.

Software Upgrade Support – Analyzer manufacturers, at times, will change their software either to improve performance or correct a problem, on their own or at the request of PennDOT. The contractor supports these efforts in the following ways:

- **Manufacturer Testing Support** – The contractor continued to provide support to the manufacturers by assisting them with data analysis as they worked through the changes to their software.
- **ATP/Beta Support** – The contractor performed data analysis of transactions as the manufacturers presented their software upgrades for Acceptance Testing and Beta Testing.

General Operations Activities – The VIID successfully maintained 99.9% availability during core business hours. Technicians checked for successful completion of the daily backup file as well as ensuring that the PennDOT Upload Report was completed correctly. In addition, the contractor successfully executed a system failover test to ensure all systems at our secondary location are properly configured to process requests in the event of a failover, eliminating any impact to the motorists in the Commonwealth.

Server/Storage Upgrades – The contractor implemented a new hardware infrastructure at two geographically separated data centers, deployed new software and migrated the data from the previous contractor to the new database.

Perform Oversight Activities and Quality Assurance/Quality Control

The ongoing integrity of Pennsylvania's I/M program is maintained through a number of QA/QC measures. Internal reviews are performed by both PennDOT and the contractor to ensure all QAOs continue to follow specified procedures and practices in the course of their oversight functions. PennDOT and the contractor continually emphasize positive relations with both the industry and the driving public.

Station auditing focuses on documenting discrepancies identified in the course of routine audits and, when necessary, discussing solutions with station personnel to help avoid repeat occurrences. Analyzing previous station records greatly aids in the identification of possible problem areas that can be addressed through targeting stations with overt or covert audits. Consumer complaints and industry tips also continue to provide a valuable source of information used by PennDOT and the contractor on a continuous basis.

Public Information and Education

I. SUMMARY OF PROGRAM ISSUES TO BE COMMUNICATED

Beginning October 1, 1997, Pennsylvania enacted an enhanced vehicle emissions inspection program. This inspection program originally affected 3.6 million cars, vans and light duty trucks in the state. These enhanced inspections are conducted by neighborhood garages and auto dealers to give motorists the choice and convenience they ask for with the oversight and control needed to ensure an accurate and fair inspection.

The enhanced program was designed by PennDOT with input from the automotive repair industry, motorists, and automobile clubs. The program is tailored to meet the specific needs of each area of the state.

The program was expanded in 2003 and 2004 to a total of 25 Counties in four regions. In 2003-2004, the eight Northern Region Counties (Blair, Erie, Cambria, Centre, Lackawanna, Luzerne, Lycoming, and Mercer) implemented a gas cap test and visual inspection for all 1975 and newer passenger vehicles—more than 1 million cars, vans and light trucks. The eight South Central and Lehigh Valley Counties (Berks, Cumberland, Dauphin, Lancaster, Lebanon, Lehigh, Northampton, and York), implemented OBDII and gas cap tests for 1996 and newer vehicles, while 1975-1995 vehicles receive a gas cap test and visual inspection. These tests were phased in December 2003 through February 2004 for more than 1.8 million vehicles.

The 4-County Pittsburgh Region (Allegheny, Beaver, Washington, and Westmoreland) transitioned to the OBD II testing January 1st through March 30th of 2004. In 2004, the transition required an OBD and Gas Cap test for 1996 and newer vehicles, retained the idle test for 1979-1995 vehicles, and added a Visual and Gas Cap check for 1975-1978 model year vehicles.

The 5-County Philadelphia Region (Philadelphia, Delaware, Bucks, Chester and Montgomery) transitioned to the OBD II testing April 1st through June 30th 2004. In 2004, the transition required an OBD and Gas Cap test for 1996 and newer vehicles, retained the ASM and idle test for 1979-1995 vehicles and added a Visual and Gas Cap Check for 1975-1978 vehicles.

In 2012, approximately 5,679,954 initial tests were performed. In operation since October 1997, the public information and education program continues to target affected vehicle owners, participating stations and related interest groups, such as equipment manufacturers and trade organizations, as the primary audiences for communications efforts.

II. COMMUNICATION GOALS

The Pennsylvania Emission Team (PET), comprised of the Pennsylvania Department of Transportation, (PennDOT), Department of Environmental Protection (DEP), the contractor and its subcontractors reached all of its strategic communication goals for 2012, as detailed below.

III. OVERVIEW 2012 PET PUBLIC COMMUNICATIONS

To continue supporting the Pennsylvania Emissions Program, consumer education and other I/M program information were distributed primarily through testing stations and the toll-free consumer hotline call center.

Centerpieces of the information program are:

- The www.drivecleanpa.state.pa.us and www.dot.state.pa.us web sites provide basic program information to all audiences.
- The general program brochure "Pennsylvania's Vehicle Emissions Inspection & Maintenance Program" provides customers a hot line number along with basic program and air quality information.
- These brochures are available online at the Drive Clean website and may be downloaded by inspection stations or motorists. The toll-free customer hot line (1-800-265-0921) is available to answer consumer inquiries. Operators responded to 9473 consumer inquiries in 2012.
- The toll-free station operator hot line (1-888-265-5909) is available to answer inspection station inquiries. In 2012, the call center responded to 21,194 inspection station inquiries. There was an expected increase in inspection station inquiries due to the transition of program management and their new enrollment process.
- Updates and presentations to station operators at industry meetings and tradeshow.
- The I/M Update newsletter contains program updates to the existing I/M program and is issued quarterly.

IV. CONSUMER OUTREACH/FEEDBACK

Consumer outreach efforts continued to focus on the program's system, benefits, and commonly asked questions. These topics were addressed through messages in brochures and handouts.

Customer feedback was obtained through:

- The toll-free consumer hot line: (1-800-265-0921).
- Inquiries originating from both the www.drivecleanpa.state.pa.us and www.dot.state.pa.us web sites.
- Direct feedback from customers to PennDOT and DEP.
- Other sources such as media, legislators and industry representatives.

Customer Call Center and Station Hotline:

Consumer hot line call volumes increased slightly during 2012. The contractor continued efforts to educate consumers and stations on the emissions program. There were 9473 customer calls in the year 2012, compared to 9,223 customer calls in the year 2011 and 9717 customer calls in the year 2010. Overall, the total volume of consumer complaints to date represent less than one percent of the total call volume into the customer queues. This statistic has held steadily from October 1997 to the present. Calls that hot line operators were not able to address were forwarded to the contractor or PennDOT for individual response and follow-up. To keep operators current on program issues, the contractor continues to provide training updates with call center supervisors.

V. OVERVIEW 2012 PUBLIC RELATIONS AND EDUCATION INDUSTRY COMMUNICATIONS

The main industry audiences continued to be:

- Station owners and operators.
- Inspectors and repair technicians.
- Industry groups – large and small – such as the Alliance of Automotive Service Professionals (AASP), Petroleum Retailers and Auto Repair Association (PRARA) and other local inspection station associations.
- Trade schools and other training facilities.
- Inspection equipment manufacturers.

The public information team continued to develop and update talking points and training materials to address specific questions of potential and current participating stations. Overall, the need for continuing education about the program still exists as new inspection station owners and inspectors participate in the program. The contractor continues to use several communication techniques that have previously proven successful in reaching these audiences.

These include:

- A database of participating I/M stations was used to distribute bulletins on training provisions and program requirements.
- On-line analyzer alerts, which are tips and reminders that appear on a station's computer screen after technicians log on to the system.

- Presentations, as well as question and answer sessions, conducted during local station association meetings. The contractor's speakers participated in 21 local meetings in 2012. Lists of speaking engagements were distributed weekly to share information on upcoming presentations and meetings on the I/M program.
- The toll-free station operator hot line (1-888-265-5909). Operators are trained to address concerns, answer procedural questions, re-order public information materials and offer network technical assistance to potential and current I/M station owners and technicians. In 2012, the call center responded to 21,194 station inquiries, compared to 10,192 in 2011. There was an expected increase in inspection station inquiries due to the transition of program management and the new enrollment process.
- Information for stations on the www.drivedcleanpa.state.pa.us web site, including archived "I/M Update" newsletters.

VI. ONGOING COORDINATION EFFORTS

These communication processes helped PennDOT, the contractor and the industry to address the main operational issues in 2012. These included:

- Continued production of I/M Update newsletter designed to provide information to stations on key issues and answer common questions involved with emission testing.
- Produced, packaged and mailed 446 enrollment packets containing program information specific to each region. These were mailed to new stations interested in enrolling in the Pennsylvania Emissions Program.
- Produced, packaged and mailed 7903 enrollment packets to all active inspection stations in August 2012. Enrollment packets contained information about the transition to a new program management contractor, as well documents necessary for inspection stations to establish billing agreements with the new contractor.

The new contractor tracked all active stations throughout the transitional enrollment process to insure all stations wanting to continue after the transition were enrolled in a billing agreement with the new contractor. As the deadline for transitional enrollment approached, the new contractor contacted all remaining non-enrolled active stations directly by phone to assist in completing the new enrollment process prior to the deadline. Out of 7903 active stations, 7876 enrolled with the new contractor; a 99.7% participation rate. Of the remaining 27 stations, 24 cancelled and three were abandoned.

Oversee the Delivery of Waivers

Waivers are delivered at the stations by Certified Repair Technicians and validated by the VIID. Stations occasionally request assistance from the contractor's regional offices due to procedural errors or entry of improper information. In 2012, 5,679,954 vehicles were tested and 12,771 waivers were issued. (See (a) Test Data Report, Item 2 (v) for % breakdown and Appendix E for Model Year Listing). This compares to 5,716,625 vehicles tested and 15,074 waivers issued in 2011 and 5,725,874 vehicles tested and 14,102 waiver stickers issued in 2010.

Exception Processing

The regional offices also handle requests for specific vehicle part and readiness exceptions. For vehicles subject to visual or tailpipe emissions inspections, vehicle part exceptions are issued when a particular vehicle's emission control device can no longer be obtained from several sources. The vehicle must still pass all other aspects of the subject emissions inspection. Vehicle readiness exceptions are issued when a particular vehicle cannot be made ready to test for an OBD inspection; even after all proper procedures for vehicle readiness have been followed. For both types of exceptions, proper documentation must be submitted by the requesting inspection station for the vehicle in question. In 2012, there were 19 part exceptions issued and 185 readiness exceptions issued.

Operate Referee Program

The Pennsylvania I/M Program includes a referee program to address disputes between customers and stations. Requests for a referee originate from consumer complaints through the 800-265-0921 phone number to the program's Consumer Call Center. The referees accept all complaints, although most involve misunderstandings of program requirements. Each individual complaint takes a significant amount of time to resolve. In many cases, the contractor personnel act as a liaison between the customer and the station to clear up any misunderstandings. The typical outcome has been a mutual understanding between the customer and stations with both parties satisfied with the result without having to escalate it to a referee request. No customer complaints received through the customer hotline resulted in a referee request.

Hold Hearings and Issue Suspensions for the I/M Program

The hearing process emanates from the need to further investigate issues identified at stations in the course of auditing. Prior to taking action against a station, PennDOT will investigate any issues through Department hearings. During these Department hearings, station personnel and the responsible Quality Assurance Officer (QAO) present information to PennDOT.

When PennDOT renders a decision regarding a station or inspector, the station or inspector is notified in writing. In cases where a suspension of inspection privileges is imposed, the contractor serves the notice on the station or inspector. Appeal rights exist through the Courts of Common Pleas.

Quantitative information regarding hearings held in 2012 is provided in the “Quality Assurance” sections of this report.

Motorist Compliance Enforcement

Parking lot surveys are conducted by the contractor's QAOs. Data is provided to PennDOT for analysis to ensure the integrity and validity of the information. The information is then provided to the contractor for further analysis against recorded information in the VIID. A list of parking lots surveyed and a summary of results are presented in **Appendix K**.

Manage the Process of the I/M Program

The contractor team continually provides assistance to inspection stations during their day-to-day operations. Of special significance is when stations decide to enter or leave the I/M program. At these times, required information is provided to the stations to ease their entrance into emissions testing and to ensure that stations deciding to cease emissions inspections take all necessary steps to leave the I/M program correctly. The movement of technicians and station authorities at stations participating in the emissions program is tracked to ensure station requirements are met.

Manage/Update the Problem Vehicle List in the Vehicle Reference Table

When the OBD program was implemented in October 2003, the Environmental Protection Agency (EPA) was aware that certain vehicles exhibited potential readiness issues. To assist motorists, PennDOT approved a plan utilizing a list, initially provided by the EPA, which would identify these potential problem vehicles during the OBD test. These problem vehicles are denoted by utilizing a Problem Vehicle field within the Vehicle Reference Table (VRT). The VRT is stored on the analyzer and referenced during testing.

Initially the VRT identified 50 potential problem vehicles representing 3.23% of all tests resulting in not ready. The potential problem vehicle list was further updated in October 2004 by adding 180 vehicles dropping the percentage of Not Ready test results to 2.45%. On August 11, 2005, another 106 vehicles were added to the VRT, bringing the total number of potential problem vehicles to 336, and dropping the percentage of Not Ready test results to approximately 2%. In 2008, PennDOT approved the update of the VRT for model years 2000 through 2011. The VRT update process was completed in 2011. Going forward, maintenance will be performed

on the VRT on an annual basis which will include adding vehicles for the current model year and adding/removing problem vehicles as necessary. In 2012, prior to their exit from this program, the previous contractor updated the VRT to include the 2013 model year.

All subject vehicles are required to pass the MIL bulb check during Key On Engine Off (KOEO), Key On Engine Running (KOER), MIL command check and exhibit no Diagnostic Trouble Codes (DTCs). If the vehicle receives a Not Ready status and has passed the above requirements, the VRT table is checked for a potential problem flag. If confirmed a problem vehicle, the vehicle will receive a pass. The list of potential problem vehicles is reviewed on an ongoing basis for the purpose of adding or deleting vehicles to keep the list current. Vehicles are selected through record checks from the state emission inspection data base, as well as vehicles identified by other state OBD programs during periodic EPA/States conference calls.

(a) TEST DATA REPORT

(1) Number of vehicles tested by model year & vehicle type [40CFR§51.366(a)(1)]
5,679,954 (See Appendix A)

(2) By model year & vehicle type, the number and percentage of vehicles [40CFR§51.366(a)(2)]

i Failing initially, per test type:

- a. ASM (Acceleration Simulation Mode) – 5,340 vehicles; 8.94% (See **Appendix A**)
- b. TSI (Two Speed Idle) – 3,881 vehicles; 5.84% (See **Appendix A**)
- c. OBD (On-Board Diagnostic) – 117,695 vehicles; 2.59% (See **Appendix A**)
- d. VIS (Visual Inspection) – 8,151 vehicles; 0.80% (See **Appendix A**)

ii Failing the first retest, per test type:

- a. ASM – 402 vehicles; 29.41% (See **Appendix B**)
- b. TSI – 317 vehicles; 32.09% (See **Appendix B**)
- c. OBD – 12,775 vehicles; 23.21% (See **Appendix B**)
- d. VIS - 159 vehicles; 5.24% (See **Appendix B**)

iii Passing the first retest, per test type:

- a. ASM – 965 vehicles; 70.59% (See **Appendix C**)
- b. TSI – 671 vehicles; 67.91% (See **Appendix C**)
- c. OBD – 38,861 vehicles; 70.60% (See **Appendix C**)
- d. VIS – 2,878 vehicles; 94.76% (See **Appendix C**)

iv Initially failed vehicles passing the second or subsequent retest, per test type:

- a. ASM - 110 vehicles; 59.14% (See **Appendix D**)
- b. TSI - 80 vehicles; 66.12% (See **Appendix D**)
- c. OBD – 1,147 vehicles; 45.19% (See **Appendix D**)
- d. VIS - 106 vehicles; 74.13% (See **Appendix D**)

v Initially failed vehicles receiving a waiver

See Appendix E

Note: The waiver rates shown do not reflect vehicles that had gas caps replaced during a test that resulted in an overall pass. For example, **Appendix E** shows the 2012 waiver rate for all vehicles, based on initial fails (not including failed gas caps replaced during a test that resulted in an overall pass), to be 9.5 %. However, when the results of inspections where gas caps were replaced during an overall pass (Appendix I) are counted as failures, the 2012 waiver rate for passenger vehicles is reduced to 5.6%.

vi **Vehicles with no known final outcome (regardless of reason)**
See **Appendix F**

vii – x **[RESERVED FOR FUTURE USE]**

xi **Passing the on-board diagnostic check**
See **Appendix G**

xii **Failing the on-board diagnostic check**
See **Appendix G**

xiii **Failing the on-board diagnostic check and passing the tailpipe test**
Not Applicable

xiv **Failing the on-board diagnostic check and failing the tailpipe test**
Not Applicable

xv **Passing the on-board diagnostic check and failing the I/M gas cap test**
See **Appendix H**

xvi **Failing the on-board diagnostic check and passing the I/M gas cap test**
See **Appendix H**

xvii **Passing both the on-board diagnostic check and I/M gas cap test**
See **Appendix H**

xviii **Failing both the on-board diagnostic check and I/M gas cap test**
See **Appendix H**

xix **MIL is commanded on and no codes are stored**
There was a zero occurrence of the MIL being commanded On and No Codes being stored during the reporting period.

xx **MIL is not commanded on and codes are stored**
Not Applicable - Pennsylvania does not proceed with DTC retrieval if the MIL status is not equal to True or On.

xxi **MIL is commanded on and codes are stored**
See **Appendix G**

xxii **MIL is not commanded on and codes are not stored**
Not Applicable - Pennsylvania does not proceed with DTC retrieval if the MIL status is not equal to True or On.

xxiii **Readiness status indicates that the evaluation is not complete for any module supported by on-board diagnostic systems**
See **Appendix G**

(3) **The initial test volume by model year and test station [40CFR§51.366(a)(3)]**
See **Appendix J**

(4) **The initial test failure rate by model year and test station [40CFR§51.366(a)(4)]**
See **Appendix J**

- (5) The average increase or decrease in tailpipe emission levels for HC, CO, & NO_x (if applicable) after repairs by model year & vehicle type for vehicles receiving a Mass Emission Test**

[40CFR§51.366(a)(5)]

There were no vehicles subject to Pennsylvania's I/M Program that received a Mass Emissions Test during the report period.

(b) QUALITY ASSURANCE REPORT

(1) The number of inspection stations and lanes [40 CFR §51.366(b)(1)]

i Operating throughout the year:

From January 1 to December 31, 2012, there were 1,464 inspection stations in the Northern Region, 2,157 inspection stations in the Philadelphia Region, 1,368 inspection stations in the Pittsburgh Region and 2,277 inspection stations in the South Central Region, for a total of 7,266 stations that operated throughout the year in the Pennsylvania I/M program.

ii Operating for only part of the year:

From January 1 to December 31, 2012, there were 108 inspection stations in the Northern Region, 254 inspection stations in the Philadelphia Region, 90 inspection stations in the Pittsburgh Region and 233 inspection stations in the South Central Region, for a total of 685 stations that operated for only part of the year in the Pennsylvania I/M program.

(2) The number of inspection stations and lanes operating throughout the year [40 CFR §51.366(b)(2)]

i Receiving overt performance audits in the year:

From January 1 to December 31, 2012, there were 1,456 inspection stations in the Northern Region, 2,143 inspection stations in the Philadelphia Region, 1,364 inspection stations in the Pittsburgh Region and 2,265 inspection stations in the South Central Region, for a total of 7,228 stations that received overt performance audits during the 2012 inspection year.

Overt performance audits are conducted during the Complete Audit.

ii Not receiving overt performance audits in the year:

From January 1 to December 31, 2012 there were eight inspection stations in the Northern Region, 14 inspection stations in the Philadelphia Region, there was four inspection station in the Pittsburgh Region, and 12 inspection stations in the South Central Region, for a total of 38 inspection stations, that did not receive an overt performance audit during the 2012 inspection year. The eight inspection stations in the Northern Region were suspended for terms of three months or more. The 14 inspection stations in the Philadelphia Region were suspended for terms of two years or more. The four inspection station in the Pittsburgh Region was suspended for terms of two years or more. The 12 stations in the South Central Region were suspended for terms of nine months or more.

iii Receiving covert performance audits in the year:

From January 1 to December 31, 2012 there were 1,418 inspection stations in the Northern Region, 2,096 inspection stations in the Philadelphia Region, 1,347 inspection stations in the Pittsburgh

Region, and 2,193 inspection stations in the South Central Region, for a total of 7,054 stations, that received covert performance audits.

iv Not receiving covert performance audits in the year:

From January 1 to December 31, 2012 there were 46 inspection stations in the Northern Region, 61 inspection stations in the Philadelphia Region, 21 inspection stations in the Pittsburgh Region, and 84 inspection stations in the South Central Region, for a total of 212 stations, that did not receive a covert performance audit.

Of the 46 stations in the Northern Region, 37 were Fleet or Commonwealth stations or Vocational schools and nine were under suspension.

Of the 61 stations in the Philadelphia Region, 45 were Fleet or Commonwealth stations or Vocational schools and 16 were under suspension.

Of the 21 stations in the Pittsburgh Region, 18 were Fleet or Commonwealth stations or Vocational schools and three were under suspension.

Of the 84 stations in the South Central Region, 73 were Fleet or Commonwealth stations or Vocational schools, 11 were under suspension.

v That have been shut down as a result of overt performance audits:

From January 1 to December 31, 2012 there were six stations in the Northern Region, 18 inspection stations in the Philadelphia Region, five inspection stations in the Pittsburgh Region, and 23 inspection stations in the South Central Region, for a total of 52 stations that were shut down (suspended) as the result of overt performance audits.

(3) The number of covert audits [40 CFR §51.366(b)(3)]:

i Conducted with the vehicle set to fail, per test type:

- a. ASM – 197 covert audits
- b. TSI – 305 covert audits
- c. OBD – 9,583 covert audits
- d. VIS – 2,143 covert audits

From January 1 to December 31, 2012 there were 197 covert audits set to fail the ASM inspection, 305 covert audits set to fail the TSI inspection, 9,583 covert audits set to fail the OBD inspection, and 2,143 covert audits set to fail the VIS inspection.

ii Conducted with the vehicle set to fail any combination of two or more test types:

From January 1 to December 31, 2012 there were no covert audits set to fail any combination of two or more test types for the ASM, OBDII, TSI, or VIS inspections.

iii Resulting in a false pass, per test type:

- a. ASM - 3 covert audits
- b. TSI - 2 covert audits
- c. OBD – 47 covert audits
- d. VIS - 11 covert audits

From January 1 to December 31, 2012 there were three covert audits resulting in a false pass of the ASM inspection, two covert audits resulting in a false pass of the TSI inspection, 47 covert audits resulting in a false pass of the OBDII inspection, and 11 covert audits resulting in a false pass of the VIS inspection, for a total of 63.

In the same time period, there were also 33 covert audits resulting in a false pass of at least one component of the visual inspection and 574 covert audits resulting in a false pass of at least one component of the OBDII inspection, even though the overall result of the inspection remained a fail and the vehicle did not receive a sticker. This was generally due to a false pass of a visual component, or to a false pass of either the KOEO or KOER portions of the OBDII inspection. In either case, the inspection still failed for other factors such as additional visual components, or MIL commanded on and the presence of DTCs.

iv Resulting in a false pass for any combination of two or more test types:

From January 1 to December 31, 2012 there were no covert audits resulting in a false pass for any combination of two or more test types for the ASM, OBDII, TSI or VIS inspections

(4) The number of inspectors and stations [40 CFR §51.366(b)(4)]

i. That were suspended, fired, or otherwise prohibited from testing as a result of covert audits:

From January 1 to December 31, 2012, there was two stations and five technicians suspended because of covert audits in the Northern Region.

From January 1 to December 31, 2012, there was one station and one technician suspended because of covert audits in the Philadelphia Region.

From January 1 to December 31, 2012, there were no stations and no technician suspended because of covert audits in the Pittsburgh Region.

From January 1 to December 31, 2012, there were three stations and four technicians suspended because of covert audits in the South Central Region.

Note: Due to the decentralized nature of the program, it is impossible to report on the stations' individual actions taken on inspectors as a result of covert audits. Therefore, reported here are suspensions issued to station/technicians that resulted from a covert audit.

ii. That were suspended, fired, or otherwise prohibited from testing for other causes:

From January 1 to December 31, 2012, there were six stations and two technicians suspended because of overt audits in the Northern Region.

From January 1 to December 31, 2012, there were 17 stations and 22 technicians suspended because of overt audits in the Philadelphia Region.

From January 1 to December 31, 2012, there were five stations and four technicians suspended because of overt audits in the Pittsburgh Region.

From January 1 to December 31, 2012, there were 23 stations and 20 technicians suspended because of overt audits in the South Central Region.

Note: Due to the decentralized nature of the program, it is impossible to report on the stations' individual actions taken on inspectors as a result of other causes.

Therefore, reported here are suspensions served on the station/technicians that resulted from an overt audit.

iii. That received fines:

From January 1 to December 31, 2012, there were three stations and no technicians receiving fines in the Northern Region.

From January 1 to December 31, 2012, there were 13 stations and three technicians receiving fines in the Philadelphia Region.

From January 1 to December 31, 2012, there were two stations and one technician receiving fines in the Pittsburgh Region.

From January 1 to December 31, 2012, there were 15 stations and three technicians receiving fines in the South Central Region.

(5) The number of inspectors licensed or certified to conduct testing [40 CFR §51.366(b)(5)]

The Commonwealth had 28,684 inspectors licensed to perform testing during the report period.

(6) The number of hearings [40 CFR §51.366(b)(6)]:

i Held to consider actions against inspectors and stations:

From January 1 to December 31, 2012, there were six station hearings involving five inspectors held in the Northern Region.

From January 1 to December 31, 2012, there were 23 station hearings involving 29 inspectors held in the Philadelphia Region.

From January 1 to December 31, 2012, there were five station hearings involving six inspectors held in the Pittsburgh Region.

From January 1 to December 31, 2012, there were 38 station hearings involving 42 inspectors held in the South Central Region.

ii Resulting in actions against inspectors and stations:

From January 1 to December 31, 2012, three station hearings and four technician hearings in the Northern Region resulted in adverse actions against inspectors and stations. Due to the time elapsed between the hearing and when PennDOT decides an action, we cannot report all adverse actions originating from a hearing in 2012.

From January 1 to December 31, 2012, 21 station hearings and 27 technician hearings in the Philadelphia Region resulted in adverse actions against inspectors and stations. Due to the time elapsed between the hearing and when PennDOT decides an action, we cannot report all adverse actions originating from a hearing in 2012.

From January 1 to December 31, 2012, four station hearings and three technician hearings in the Pittsburgh Region resulted in adverse actions against inspectors and stations. Due to the time elapsed between the hearing and when PennDOT decides an action, we cannot report all adverse actions originating from a hearing in 2012.

From January 1 to December 31, 2012, 35 station hearings and 36 technician hearings in the South Central Region resulted in adverse actions against inspectors and stations. Due to the time elapsed between the hearing and when PennDOT decides an action, we cannot report all adverse actions originating from a hearing in 2012.

(7) The total amount collected in fines against inspectors and stations by type of violation [40 CFR §51.366(b)(7)]

A total of \$137,200 in fines was assessed against inspectors and stations by type of violation. The fines were assessed for a variety of violations found during overt and covert audit hearings.

(8) The total number of covert vehicles available for undercover audits over the year [40 CFR §51.366(b)(8)]

Due to the management contractor's ability to purchase auction vehicles locally through its used car dealership, and if needed, lease vehicles through a local new car dealership, there exists the ability to maintain a rotating fleet of covert vehicles. This fleet is varied in its composition of vehicle age and type.

For the 2012 test year, there were a total of 60 covert vehicles available program-wide for covert audits. This total consisted of vehicles purchased directly by the contractor.

(9) The number of covert auditors available for undercover audits [40 CFR §51.366(b)(9)]

The management contractor has all of its field auditors and most of its office staff certified as emission inspectors. Personnel are also trained in the program's overt and covert audit procedures. During this reporting period, there were 68 covert auditors available for undercover audits.

(c) QUALITY CONTROL REPORT

For the purposes of the Quality Control section of this report, the equipment used to perform the inspections equates to test lanes and is the determining factor in reporting statistics. There are four types of analyzers in the Pennsylvania I/M program. Therefore all numbers are reported based on analyzers that perform one of the following: Acceleration Simulation Mode 5015 (ASM), On-Board Diagnostics II (OBDII), Two-speed Idle (TSI) and Visual (VIS). A single station may have more than one type of I/M analyzer. If a station with more than one analyzer fails an equipment audit on one type of analyzer, only that analyzer and the type of inspections it can perform are affected. If the station still has one operational analyzer, it is still allowed to perform inspections dictated by its equipment type.

(1) The number of emission testing sites and lanes in use in the program [40 CFR 51.366(c)(1)]

From January 1 to December 31, 2012, there were 646 ASM inspection analyzers, 6,983 OBDII inspection analyzers, 616 TSI inspection analyzers, and 1,306 VIS inspection analyzers that were in use in the Pennsylvania I/M program.

(2) The number of equipment audits by station and lane [40 CFR §51.366(c)(2)]

From January 1 to December 31, 2012, there were 1,393 ASM inspection analyzer audits, 12,127 OBDII inspection analyzer audits, 1,619 TSI inspection analyzer audits, and 2,484 VIS inspection analyzer audits conducted in the Pennsylvania I/M program.

The Management Contractor performs equipment audits during audits and station initializations. See Equipment Audits by Station Spreadsheet.

See **Appendix L** for the number of equipment audits by station.

(3) The number and percentage of stations that have failed equipment audits [40 CFR 51.366(c)(3)]

Based on equipment audits performed during complete audits and station initializations, there were 114 failing ASM analyzers, equating to approximately 8.18% of the audits performed. There were 44 failing OBDII analyzers, equating to approximately 0.36% of the audits performed. There were 62 failing TSI analyzers, equating to approximately 3.83% of the audits performed. There were three failing VIS analyzers, equating to approximately 0.12% of the audits performed.

Equipment failures reported are only those that would have the potential to affect the outcome of an emission inspection.

(4) Number and percentage of stations and lanes shut down as a result of equipment audits. [40 CFR §51.366(c)(4)]

Based on equipment audits performed during complete audits and station initializations, from January 1 to December 31, 2012, there were 153 ASM analyzers locked out as a result of an equipment audit, equating to approximately 10.98% of the audits performed. There were 114 OBDII analyzers locked out as a result of an equipment audit, equating to approximately 0.94% of the audits performed. There were 111 TSI analyzers locked out as a result of an equipment audit, equating to approximately 6.86% of the audits performed. There were 10 VIS analyzers locked out as a result of an equipment audit, equating to approximately 0.40% of the audits performed.

Equipment failures reported here consist of the following types; 5-gas audit failure, 72-hour calibration failure, leak check failure, gas cap tester failure, dyne calibration failure, printer failure, monitor failure, keyboard failure, computer failure, improper gas cap adaptors, software and hardware etc. Therefore, the number is higher than that reported in **[40 CFR §51.366(c)(3)]**.

(d) ENFORCEMENT REPORT

(1) Basic Statistics on the Enforcement Program

- i An estimate of the number of vehicles subject to the inspection program, including the results of an analysis of the registration data base [40 CFR §51.366(d)(1)(i)]**

Based on the results of an analysis of the registration database, an estimated 6,706,156 vehicles were subject to the Pennsylvania Enhanced I/M Program during the report period.

- ii The percentage of motorist compliance based upon a comparison of the number of valid final tests with the number of subject vehicles [40 CFR §51.366(d)(1)(ii)]**

A 97.2% compliance rate was calculated for the report period, based upon a comparison of the sum of vehicles passing tests and receiving stickers (5,544,887), qualifying for and receiving waivers (12,771), and receiving 5000-mile exemptions (959,690), totaling 6,517,348 vehicles, with the estimated number of subject vehicles.

- iii The total number of compliance documents issued to inspection stations [40 CFR §51.366(d)(1)(iii)]**

A total of 7,088,120 compliance documents (stickers) were issued to inspection stations during the reporting period.

Note: Unused stickers are destroyed by the Quality Assurance Officers at the end of each campaign year.

- iv The number of missing compliance documents [40 CFR §51.366(d)(1)(iv)]**

A total of 9,326 compliance documents (stickers) were reported missing from January 1 to December 31, 2012, compared to 23,492 compliance documents (stickers) during the same period in 2011.

- v The number of time extensions and other exemptions granted to motorists [40 CFR §51.366(d)(1)(v)]**

A total of 1,597,859 exemptions were granted under the program. Of these, 959,690 exemptions were for vehicles that had been driven less than 5,000-miles in a year and the remaining 638,169 were for new vehicles (never titled). This compares to 982,025 exemptions for vehicles that had been driven less than 5,000-miles and 572,356 issued to new vehicles in 2011. There are no "time extensions" offered.

- vi The number of compliance surveys conducted, number of vehicles surveyed in each, and the compliance rates found [40 CFR §51.366(d)(1)(vi)]**

There were four surveys conducted; one in the Northern Region that collected 6,459 records, one in the Philadelphia Region that collected 7,087 records, one in the Pittsburgh Region that collected 6,876 records, and one in the South Central Region that collected 6,191 records. These four surveys totaled 26,613 valid records collected during on-road testing utilizing a remote sensing device between January 1 and December 31, 2012.

See Item 4.iii (below).

(2) Registration denial based enforcement program info:

Pennsylvania does not use a registration denial based enforcement program.

(3) Computer-matching based enforcement program info:

Pennsylvania does not use a computer-matching based enforcement program.

(4) Sticker-based enforcement system info:

i A report on the program's efforts to prevent, detect, and enforce against sticker theft and counterfeiting, and the frequency of this type of activity [40 CFR §51.366(d)(4)(i)].

Pennsylvania uses a sticker enforcement process to ensure compliance with the requirements for vehicle inspections, for both the safety and emissions programs. Safety and emissions stickers contain security features to make them difficult to counterfeit or steal. For example, stickers are designed to fall apart or disintegrate if a sticker is removed from a vehicle's windshield after initial application.

ii Emission inspection stickers are serially numbered, assigned to specific inspection stations by station number, and recorded in a PennDOT database separate from the VIID. QAOs use this information during station audits to account for all inspection stickers issued. Stations unable to account for missing stickers are subject to a Department hearing, which could result in the suspension of stations and/or inspectors. Station records are reviewed to identify unusually high sticker purchases (based on the size of the business). QAOs perform additional overt and covert audits as necessary.

State and local police check for current inspection stickers on vehicle windshields. If enforcement officers see inspection stickers they believe are improper (counterfeit, stolen, expired, etc.), they have the authority to remove the sticker(s) from vehicles and require the owners to have the vehicles inspected or re-inspected. The officers may then initiate, or request PennDOT to initiate, an investigation, which may include the motorist and/or an inspection station. Station owners are required, by both safety and emissions inspection regulations, to report all missing and stolen inspection stickers to the QAO or PennDOT.

Station owners are also advised to contact local police or State Police authorities, who then can post the sticker numbers on the National Crime Information Center (NCIC) or the Criminal Law Enforcement Access Network System (CLEAN), which can be accessed by all state and local police. Since all inspection stickers that are mailed out are shipped through UPS, PennDOT and UPS have also developed a tracking system to minimize or prevent sticker theft between PennDOT and the inspection stations. Parking lot surveys are also used to check for stolen or counterfeit stickers (see item iii).

iii A report on the program's efforts to prevent, detect, and enforce against motorists falsely changing vehicle classifications to circumvent program requirements, or falsely registering vehicles out of the program area, and the frequency of this type of activity [40 CFR §51.366(d)(4)(ii)].

Although Pennsylvania law permits motorists to use a post office box number for mailing purposes, a street address is required for vehicle registration. Thus, PennDOT monitors registrations for customers who might try to avoid the I/M Program by registering at a post office box outside of an I/M area.

If a vehicle owner wishes to increase a vehicle's registered GVWR above that authorized by the vehicle manufacturer (in particular, to a weight that would remove the requirement for an I/M test), they must request authorization in writing from the manufacturer. Vehicle manufacturers normally do not provide approval unless the vehicle owner agrees to significant modifications to the vehicle by factory technicians. Vehicle owners who do not receive this permission will not be permitted to change the GVWR on PennDOT's registration database.

Other vehicles exempt from the requirement for an emission inspection are vehicles registered as antiques, classics, collectibles, street rods or specially constructed vehicles. To be eligible for one of these types of registrations, a vehicle owner must provide PennDOT with specified information, including photographs in some cases. There are distinctive registration plates issued for these registrations, and some of these vehicles have restricted operating privileges (approximately one day per week). Enforcement officers may issue citations for abuse of the driving limitations.

Periodic evaluation of registration data by PennDOT staff for the year 2012 reveals that motorists falsely changing vehicle classifications to circumvent I/M program requirements is not a significant problem in Pennsylvania.

iv The number of parking lot sticker audits conducted, number of vehicles surveyed in each, and the noncompliance rates found during those audits [40 CFR §51.366(d)(4)(iii)].

There were four regions surveyed, the Northern Region that collected 1,884 records, Philadelphia Region that collected 4,152 records, the Pittsburgh Region that collected 2,484 records and the South Central Region that collected 3,573 records. Vehicles surveyed within the IM inspection Counties totaled 12,093.

(See Appendix K for Motorist Compliance Data Spreadsheet for details on number of audits conducted and number of vehicles surveyed.)

(e) ADDITIONAL REPORTING REQUIREMENTS (BIENNIAL)

- (1) Any changes made in program design, funding, personnel levels, procedures, regulations, and legal authority, with detailed discussion and evaluation of the impact on the program of all such changes.**

On October 9th, 2012, the Pennsylvania Emissions Management Information System (PA-EMIS) transitioned from the previous vendor to the current contractor, Parsons Environment and Infrastructure Group. While all the systems required to maintain the program transitioned successfully, each inspection station was required to enroll with the new contractor for billing transactions.

- (2) Any weaknesses or problems identified in the program within the two-year reporting period, what steps have already been taken to correct those problems, the results of those steps, and any future efforts planned.**

There is nothing to report. There were no weaknesses or problems identified during the 2011-2012 calendar years.